WHAT IS CLAIMED IS:

1   1.   A computer implemented method comprising:

2   detecting that a memory being managed by a virtual

3   memory manager is constrained; and

4   dynamically altering settings used by a sequential

5   access read ahead process in response to the

6   detection, wherein the altered settings are adapted to

7   conserve memory used by the sequential access read

8   ahead process.

1   2.   The method of claim 1 wherein the altering further

2   comprises:

3   decreasing a maximum page ahead value, wherein the

4   maximum page ahead value corresponds to a maximum

5   number of pages read by the sequential access read

6   ahead process.

1   3.   The method of claim 2 further comprising:

2   retrieving a value corresponding to a number of free

3   page frames currently being managed by the virtual

4   memory manager; and

5   calculating a difference between the number of free

6   page frames value and a minimum desired free page

7   constant, wherein the maximum page ahead value is

8   decreased by an amount based on the calculated

9   difference.

1   4.   The method of claim 2 further comprising:

2   executing the virtual memory manager for a time

3   interval after decreasing the maximum page ahead

4   value;

5   determining that the memory is less constrained after
6   the time interval has elapsed; and

7   increasing the maximum page ahead value in response to
8   the determination.

1   5.   The method of claim 1 wherein the altering further
2   comprises:
3   disabling the sequential access read ahead process.

1   6.   The method of claim 5 further comprising:
2   executing the virtual memory manager for a time
3   interval after disabling the sequential access read
4   ahead process;

5   determining that the memory is less constrained after
6   the time interval has elapsed; and

7   enabling the sequential access read ahead process in
8   response to the determination.

1   7.   A computer-implemented method of managing memory
2   pages, wherein the memory includes a number of used
3   pages and a number of free pages, said method
4   comprising:
5   retrieving a freelist value corresponding to the
6   current number of free pages;

7   determining that the freelist value is less than a
8   predetermined minimum value; and

9   dynamically altering settings used by a sequential
10   access read ahead process in response to the
11   detection, wherein the altered settings are adapted to

12   decrease the allocation of free pages to the
13   sequential access read ahead process.

1   8.   The method of claim 7 wherein the altering further
2   comprises:
3   decreasing a current maximum page ahead value, wherein
4   the current maximum page ahead value corresponds to a
5   maximum number of pages read by the sequential access
6   read ahead process.

1   9.   The method of claim 8 wherein the decreasing further
2   comprises:
3   calculating a shift value based on the difference
4   between the freelist value and the predetermined
5   minimum value; and

6   bit shifting a constant maximum page ahead value by
7   the shift value, the bit shifting resulting in the
8   current maximum page ahead value.

1   10. The method of claim 9 wherein the calculating further
2   comprises:
3   dividing the difference between the freelist value and
4   the predetermined minimum value by the difference
5   between the predetermined minimum value and a
6   predetermined adjustment threshold, the dividing
7   resulting in a quotient and a remainder; and

8   setting the shift value to the quotient.

1   11. The method of claim 8 further comprising:
2   executing a virtual memory manager for a time interval
3   following the decreasing, wherein the virtual memory

4   manager manages the memory pages and wherein the

5   virtual memory manager includes the sequential access

6   read ahead process;

7   retrieving a subsequent freelist value corresponding

8   to the number of free pages available after the time

9   interval;

10   comparing the subsequent freelist value with the

11   current maximum page ahead value; and

12   disabling the sequential access read ahead process in

13   response to the comparison.

1   12.   The method of claim 8 further comprising:

2   executing a virtual memory manager for a time interval

3   following the decreasing, wherein the virtual memory

4   manager manages the memory pages and wherein the

5   virtual memory manager includes the sequential access

6   read ahead process;

7   retrieving a subsequent freelist value corresponding

8   to the number of free pages available after the time

9   interval;

10   determining that the subsequent freelist value is less

11   than the predetermined minimum value;

12   calculating a second shift value based on the

13   difference between the subsequent freelist value and

14   the predetermined minimum value; and

15   bit shifting the constant maximum page ahead value by

16   the second shift value, the bit shifting resulting in

17   the current maximum page ahead value.

1 13. The method of claim 8 further comprising:

2   executing a virtual memory manager for a time interval

3   following the decreasing, wherein the virtual memory

4   manager manages the memory pages and wherein the

5   virtual memory manager includes the sequential access

6   read ahead process;

7   retrieving a subsequent freelist value corresponding

8   to the number of free pages available after the time

9   interval;

10   determining that the subsequent freelist value is

11   greater than the predetermined minimum value; and

12   setting the current maximum read ahead value equal to

13   the constant maximum page ahead value in response to

14   the determination.

1 14. The method of claim 7 wherein the altering further

2   comprises:

3   disabling the sequential access read ahead process.

1 15. An information handling system comprising:

2   one or more processors;

3   a memory accessible by the processors;

4   an operating system that controls the processors;

5   a virtual memory manager, included with the operating

6   system, that manages use of the memory;

7   a nonvolatile storage area managed by the operating

8   system and including a disk swap area used by the

9   virtual memory manager;

10   a sequential access read ahead process performed by
11   the operating system adapted to pre-fetch data being
12   sequentially read from file stored in the nonvolatile
13   storage area;

14   memory conservation software used by the virtual
15   memory manager, the software effective to:

16   detect that a memory being managed by a virtual
17   memory manager is constrained; and

18   dynamically alter settings used by the sequential
19   access read ahead process in response to the
20   detection, wherein the altered settings are
21   adapted to conserve memory used by the sequential
22   access read ahead process.

1   16.   The information handling system of claim 15 wherein
2   the software is further effective to:
3   decrease a maximum page ahead value, wherein the
4   maximum page ahead value corresponds to a maximum
5   number of pages read by the sequential access read
6   ahead process.

1   17.   The information handling system of claim 16 wherein
2   the software is further effective to:
3   retrieve a value corresponding to a number of free
4   page frames currently being managed by the virtual
5   memory manager; and

6   calculate a difference between the number of free page
7   frames value and a minimum desired free page constant,
8   wherein the maximum page ahead value is decreased by
9   an amount based on the calculated difference.

1   18.   The information handling system of claim 16 wherein
2   the software is further effective to:
3   execute the virtual memory manager for a time interval
4   after decreasing the maximum page ahead value;

5   determine that the memory is less constrained after
6   the time interval has elapsed; and

7   increase the maximum page ahead value in response to
8   the determination.

1   19.   The information handling system of claim 15 wherein
2   the software is further effective to:
3   disable the sequential access read ahead process.

1   20.   The information handling system of claim 19 wherein
2   the software is further effective to:
3   execute the virtual memory manager for a time interval
4   after disabling the sequential access read ahead
5   process;

6   determine that the memory is less constrained after
7   the time interval has elapsed; and

8   enable the sequential access read ahead process in
9   response to the determination.

1   21.   An information handling system comprising:
2   one or more processors;

3   a memory accessible by the processors;

4   an operating system that controls the processors;

5   a virtual memory manager, included with the operating
6   system, that manages use of the memory;

7   a nonvolatile storage area managed by the operating
8   system and including a disk swap area used by the
9   virtual memory manager;

10   a sequential access read ahead process performed by
11   the operating system adapted to pre-fetch data being
12   sequentially read from file stored in the nonvolatile
13   storage area;

14   memory conservation software used by the virtual
15   memory manager, the software effective to:

16   retrieve a freelist value corresponding to the
17   current number of free pages;

18   determine that the freelist value is less than a
19   predetermined minimum value; and

20   dynamically alter settings used by a sequential
21   access read ahead process in response to the
22   detection, wherein the altered settings are
23   adapted to decrease the allocation of free pages
24   to the sequential access read ahead process.

1   22. The information handling system of claim 21 wherein
2   the software is further effective to:
3   decreasing a current maximum page ahead value, wherein
4   the current maximum page ahead value corresponds to a
5   maximum number of pages read by the sequential access
6   read ahead process.

1   23.   The information handling system of claim 22 wherein

2   the decreasing further comprises:

3   calculating a shift value based on the difference

4   between the freelist value and the predetermined

5   minimum value; and

6   bit shifting a constant maximum page ahead value by

7   the shift value, the bit shifting resulting in the

8   current maximum page ahead value.

1   24.   The information handling system of claim 23 wherein

2   the calculating further comprises:

3   dividing the difference between the freelist value and

4   the predetermined minimum value by the difference

5   between the predetermined minimum value and a

6   predetermined adjustment threshold, the dividing

7   resulting in a quotient and a remainder; and

8   setting the shift value to the quotient.

1   25.   The information handling system of claim 22 further

2   comprising:

3   executing a virtual memory manager for a time interval

4   following the decreasing, wherein the virtual memory

5   manager manages the memory pages and wherein the

6   virtual memory manager includes the sequential access

7   read ahead process;

8   retrieving a subsequent freelist value corresponding

9   to the number of free pages available after the time

10   interval;

11   comparing the subsequent freelist value with the
12   current maximum page ahead value; and

13   disabling the sequential access read ahead process in
14   response to the comparison.

1   26.   The information handling system of claim 22 further
2   comprising:
3   executing a virtual memory manager for a time interval
4   following the decreasing, wherein the virtual memory
5   manager manages the memory pages and wherein the
6   virtual memory manager includes the sequential access
7   read ahead process;

8   retrieving a subsequent freelist value corresponding
9   to the number of free pages available after the time
10   interval;

11   determining that the subsequent freelist value is less
12   than the predetermined minimum value;

13   calculating a second shift value based on the
14   difference between the subsequent freelist value and
15   the predetermined minimum value; and

16   bit shifting the constant maximum page ahead value by
17   the second shift value, the bit shifting resulting in
18   the current maximum page ahead value.

1   27.   The information handling system of claim 22 further
2   comprising:
3   executing a virtual memory manager for a time interval
4   following the decreasing, wherein the virtual memory
5   manager manages the memory pages and wherein the

6   virtual memory manager includes the sequential access

7   read ahead process;

8   retrieving a subsequent freelist value corresponding

9   to the number of free pages available after the time

10   interval;

11   determining that the subsequent freelist value is

12   greater than the predetermined minimum value; and

13   setting the current maximum read ahead value equal to

14   the constant maximum page ahead value in response to

15   the determination.

1   28.   The method of claim 27 wherein the altering further

2   comprises:

3   disabling the sequential access read ahead process.

1   29.   A computer program product stored on a computer

2   operable media, said computer program product

3   comprising:

4   means for detecting that a memory being managed by a

5   virtual memory manager is constrained; and

6   means for dynamically altering settings used by a

7   sequential access read ahead process in response to

8   the detection, wherein the altered settings are

9   adapted to conserve memory used by the sequential

10   access read ahead process.

1   30.   The computer program product of claim 29 wherein the

2   means for altering further comprises:

3   means for decreasing a maximum page ahead value,

4   wherein the maximum page ahead value corresponds to a

5   maximum number of pages read by the sequential access
6   read ahead process.

1   31.   The computer program product of claim 30 further
2   comprising:
3   means for retrieving a value corresponding to a number
4   of free page frames currently being managed by the
5   virtual memory manager; and

6   means for calculating a difference between the number
7   of free page frames value and a minimum desired free
8   page constant, wherein the maximum page ahead value is
9   decreased by an amount based on the calculated
10   difference.

1   32.   The computer program product of claim 30 further
2   comprising:
3   means for executing the virtual memory manager for a
4   time interval after decreasing the maximum page ahead
5   value;

6   means for determining that the memory is less
7   constrained after the time interval has elapsed; and

8   means for increasing the maximum page ahead value in
9   response to the determination.

1   33.   The computer program product of claim 29 wherein the
2   means for altering further comprises:
3   means for disabling the sequential access read ahead
4   process.

1   34.   The computer program product of claim 33 further
2   comprising:

3   means for executing the virtual memory manager for a
4   time interval after disabling the sequential access
5   read ahead process;

6   means for determining that the memory is less
7   constrained after the time interval has elapsed; and

8   means for enabling the sequential access read ahead
9   process in response to the determination.

1 35. A computer-implemented computer program product for
2   managing memory pages, wherein the memory includes a
3   number of used pages and a number of free pages, said
4   computer program product comprising:
5   means for retrieving a freelist value corresponding to
6   the current number of free pages;

7   means for determining that the freelist value is less
8   than a predetermined minimum value; and

9   means for dynamically altering settings used by a
10   sequential access read ahead process in response to
11   the detection, wherein the altered settings are
12   adapted to decrease the allocation of free pages to
13   the sequential access read ahead process.

1 36. The computer program product of claim 35 wherein the
2   means for altering further comprises:
3   means for decreasing a current maximum page ahead
4   value, wherein the current maximum page ahead value
5   corresponds to a maximum number of pages read by the
6   sequential access read ahead process.

1   37.   The computer program product of claim 36 wherein the
2   means for decreasing further comprises:
3   means for calculating a shift value based on the
4   difference between the freelist value and the
5   predetermined minimum value; and

6   means for bit shifting a constant maximum page ahead
7   value by the shift value, the bit shifting resulting
8   in the current maximum page ahead value.

1   38.   The computer program product of claim 37 wherein the
2   means for calculating further comprises:
3   means for dividing the difference between the freelist
4   value and the predetermined minimum value by the
5   difference between the predetermined minimum value and
6   a predetermined adjustment threshold, the dividing
7   resulting in a quotient and a remainder; and

8   means for setting the shift value to the quotient.

1   39.   The computer program product of claim 36 further
2   comprising:
3   means for executing a virtual memory manager for a
4   time interval following the execution of the means for
5   decreasing, wherein the virtual memory manager manages
6   the memory pages and wherein the virtual memory
7   manager includes the sequential access read ahead
8   process;

9   means for retrieving a subsequent freelist value
10   corresponding to the number of free pages available
11   after the time interval;

12   means for comparing the subsequent freelist value with

13   the current maximum page ahead value; and

14   means for disabling the sequential access read ahead

15   process in response to the comparison.

1   40.   The computer program product of claim 36 further

2   comprising:

3   means for executing a virtual memory manager for a

4   time interval following the execution of the means for

5   decreasing, wherein the virtual memory manager manages

6   the memory pages and wherein the virtual memory

7   manager includes the sequential access read ahead

8   process;

9   means for retrieving a subsequent freelist value

10   corresponding to the number of free pages available

11   after the time interval;

12   means for determining that the subsequent freelist

13   value is less than the predetermined minimum value;

14   means for calculating a second shift value based on

15   the difference between the subsequent freelist value

16   and the predetermined minimum value; and

17   means for bit shifting the constant maximum page ahead

18   value by the second shift value, the bit shifting

19   resulting in the current maximum page ahead value.

1   41.   The computer program product of claim 36 further

2   comprising:

3   means for executing a virtual memory manager for a

4   time interval following the decreasing, wherein the

5   virtual memory manager manages the memory pages and

6   wherein the virtual memory manager includes the

7   sequential access read ahead process;

8   means for retrieving a subsequent freelist value

9   corresponding to the number of free pages available

10   after the time interval;

11   means for determining that the subsequent freelist

12   value is greater than the predetermined minimum value;

13   and

14   means for setting the current maximum read ahead value

15   equal to the constant maximum page ahead value in

16   response to the determination.

1   42. The computer program product of claim 35 wherein the

2   means for altering further comprises:

3   means for disabling the sequential access read ahead

4   process.